

290578US0XPCT.ST25.txt
SEQUENCE LISTING

<110> Ishida, Nobuhiro
Tokuhiko, Kenro
Nagamori, Eiji
Takahashi, Haruo
Saito, Satoshi
Ohni Shi, Tohru

<120> Promoter in the presence of organic acid and utilization thereof

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<140> 10/578,614
<141> 2006-05-08

<150> PCT/JP04/16799
<151> 2004-11-05

<150> JP 2003-379076
<151> 2003-11-07

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<170> PatentIn version 3.3

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| aaaaaaaaag tataaataga gacgatatat gccaatactt cacaatgttc gaatctattc | 840 |
| ttcatttgca gctattgtaa aataataaaa catcaagaac aaacaagctc aacttgtctt | 900 |
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| gatctcggcc ttttgccag acatctgata tgagcgtgcg tgtgagtgac ttacacttg | 180 |
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| aaaaaccggt cctgacgtca ctgaaaagat ttcggcacat ggtcatggga ccagagaaaa | 420 |
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| caataaaaaa aagagatact tgtcaccatc tcgtctccct ttaccttttt tacttaatct | 180 |
| tcttcgtcgt catctgttcc atccctttcc tagcttagtc ttctccggct agttcttagt | 240 |
| gcggtaaagca aaaaaatagc gttttttttc cctcaccagg actttttttg ttaaccgaaa | 300 |
| atcggcatct ctagttttcc tggacaaaaa agacaaaatg gaaataaaca ctcatacgaa | 360 |
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| aattccagaa gtgggttttc aatttatcac acatgtacat gaagggaaat gtttaaatac | 480 |
| ggctttcgta aaacaaagga tctcttcacc tggtttcttc atttataagt agtgtctttt | 540 |
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| acatccaatt ttttgaccct attttaacat taattttttg ctttaatttt aactaatacc | 840 |
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| 1 5 10 15 | |
| cat gtc ccc cag aat aag att aca att gtt ggg gtt ggt gct gtt ggc | 96 |
| His Val Pro Gln Asn Lys Ile Thr Ile Val Gly Val Gly Ala Val Gly | |
| 20 25 30 | |
| atg gcc tgt gcc atc agt atc tta atg aag gac ttg gca gat gaa gtt | 144 |
| Met Ala Cys Ala Ile Ser Ile Leu Met Lys Asp Leu Ala Asp Glu Val | |
| 35 40 45 | |
| gct ctt gtt gat gtc atg gaa gat aaa ctg aag gga gag atg atg gat | 192 |
| Ala Leu Val Asp Val Met Glu Asp Lys Leu Lys Gly Glu Met Met Asp | |
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| Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile Val Ser Gly | |
| 65 70 75 80 | |
| aaa gac tat aat gtg aca gca aac tcc agg ctg gtt att atc aca gct | 288 |
| Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile Ile Thr Ala | |
| 85 90 95 | |
| ggg gca cgt cag caa gag gga gag agc cgt ctg aat ttg gtc cag cgt | 336 |
| Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu Val Gln Arg | |
| 100 105 110 | |
| aac gtg aac atc ttt aaa ttc atc att cct aat att gta aaa tac agc | 384 |
| Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val Lys Tyr Ser | |
| 115 120 125 | |
| cca aat tgc aag ttg ctt gtt gtt tcc aat cca gtc gat att ttg acc | 432 |
| Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr | |
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| tat gtg gct tgg aag ata agt ggc ttt ccc aaa aac cgt gtt att gga | 480 |
| Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg Val Ile Gly | |
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| Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu Met Gly Glu | |
| 165 170 175 | |
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| Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu | |
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| cat ggt gac tct agt gtg cct gta tgg agt gga gtg aat gtt gct ggt | 624 |
| His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly | |
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| gtc tcc ctg aag aat tta cac cct gaa tta ggc act gat gca gat aag | 672 |
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| gtg atc aaa ctg aaa ggc tac aca tcc tgg gcc att gga ctg tca gtg Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val 245 250 255 | | | 768 |
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| att tcc acc atg att aag ggt ctc tat gga ata aaa gag gat gtc ttc Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe 275 280 285 | | | 864 |
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Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile Val Ser Gly
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Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile Ile Thr Ala
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Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu Val Gln Arg
Page 6

100

Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val Lys Tyr Ser
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Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr
130 135 140

Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg Val Ile Gly
145 150 155 160

Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu Met Gly Glu
165 170 175

Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu
180 185 190

His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly
195 200 205

Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys
210 215 220

Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu
225 230 235 240

Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val
245 250 255

Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro
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<400> 37
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47

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290578US0XPCT.ST25.txt

| 15 | 20 | 25 | |
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| gat gaa gtt gct ttg gtt gat gtt atg gaa gat aaa ttg aaa ggt gaa Asp Glu Val Ala Leu Val Asp Val Met Glu Asp Lys Leu Lys Gly Glu 50 55 60 | | | 195 |
| atg atg gat ttg caa cat ggt tct ttg ttt ttg aga act cca aaa att Met Met Asp Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile 65 70 75 | | | 243 |
| gtt tct ggt aaa gat tat aat gtt act gct aat tct aga ttg gtt att Val Ser Gly Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile 80 85 90 | | | 291 |
| att act gct ggt gct aga caa caa gaa ggt gaa tct aga ttg aat ttg Ile Thr Ala Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu 95 100 105 | | | 339 |
| gtt caa aga aat gtt aat att ttt aaa ttt att att cca aat att gtt Val Gln Arg Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val 110 115 120 125 | | | 387 |
| aaa tat tct cca aat tgt aaa ttg ttg gtt gtt tct aat cca gtt gat Lys Tyr Ser Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp 130 135 140 | | | 435 |
| att ttg act tat gtt gct tgg aaa att tct ggt ttt cca aaa aat aga Ile Leu Thr Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg 145 150 155 | | | 483 |
| gtt att ggt tct ggt tgt aat ttg gat tct gct aga ttt aga tat ttg Val Ile Gly Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu 160 165 170 | | | 531 |
| atg ggt gaa aga ttg ggt gtt cat cca ttg tct tgt cat ggt tgg att Met Gly Glu Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile 175 180 185 | | | 579 |
| ttg ggt gaa cat ggt gat tct tct gtt cca gtt tgg tct ggt gtt aat Leu Gly Glu His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn 190 195 200 205 | | | 627 |
| gtt gct ggt gtt tct ttg aaa aat ttg cat cca gaa ttg ggt act gat Val Ala Gly Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp 210 215 220 | | | 675 |
| gct gat aaa gaa caa tgg aaa gct gtt cat aaa caa gtt gtt gat tct Ala Asp Lys Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser 225 230 235 | | | 723 |
| gct tat gaa gtt att aaa ttg aaa ggt tat act tct tgg gct att ggt Ala Tyr Glu Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly 240 245 250 | | | 771 |
| ttg tct gtt gct gat ttg gct gaa tct att atg aaa aat ttg aga aga Leu Ser Val Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg 255 260 265 | | | 819 |
| gtt cat cca att tct act atg att aaa ggt ttg tat ggt att aaa gaa | | | 867 |

290578US0XPCT.ST25.txt

Val His Pro Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu
 270 275 280 285
 gat gtt ttt ttg tct gtt cca tgt att ttg ggt caa aat ggt att tct 915
 Asp Val Phe Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser
 290 295 300
 gat gtt gtt aaa gtt act ttg act cat gaa gaa gaa gct tgt ttg aaa 963
 Asp Val Val Lys Val Thr Leu Thr His Glu Glu Glu Ala Cys Leu Lys
 305 310 315
 aaa tct gct gat act ttg tgg ggt att caa aaa gaa ttg caa ttt taa 1011
 Lys Ser Ala Asp Thr Leu Trp Gly Ile Gln Lys Glu Leu Gln Phe
 320 325 330
 taactcgagc ttggttgaac acgttgccaa ggcttaagtg a 1052

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 <211> 332
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Construct

<400> 43

Met Ala Thr Leu Lys Asp Gln Leu Ile Gln Asn Leu Leu Lys Glu Glu
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His Val Pro Gln Asn Lys Ile Thr Ile Val Gly Val Gly Ala Val Gly
20 25 30

Met Ala Cys Ala Ile Ser Ile Leu Met Lys Asp Leu Ala Asp Glu Val
35 40 45

Ala Leu Val Asp Val Met Glu Asp Lys Leu Lys Gly Glu Met Met Asp
50 55 60

Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile Val Ser Gly
65 70 75 80

Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile Ile Thr Ala
85 90 95

Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu Val Gln Arg
100 105 110

Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val Lys Tyr Ser
115 120 125

Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr
130 135 140

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Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg Val Ile Gly
 145 150 155 160

Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu Met Gly Glu
 165 170 175

Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu
 180 185 190

His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly
 195 200 205

Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys
 210 215 220

Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu
 225 230 235 240

Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val
 245 250 255

Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro
 260 265 270

Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe
 275 280 285

Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser Asp Val Val
 290 295 300

Lys Val Thr Leu Thr His Glu Glu Glu Ala Cys Leu Lys Lys Ser Ala
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Asp Thr Leu Trp Gly Ile Gln Lys Glu Leu Gln Phe
 325 330

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<220>
 <223> synthetic primer

<400> 44
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31

<210> 45
 <211> 31

<212> DNA
<213> Artificial

<220>
<223> Synthetic primer

<400> 45
atatatgaat tctttgattg atttgactgt g 31

<210> 46
<211> 34
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer

<400> 46
atatatctcg aggccagcta acttcttggt cgac 34

<210> 47
<211> 31
<212> DNA
<213> Artificial

<220>
<223> Synthetic primer

<400> 47
atatatgaat tctttgattg atttgactgt g 31